
Background Signaling Diagnostic (LD 45)

The Background Signaling and Switching Diagnostic program (LD 45) tests peripheral equipment and is used to perform continuity tests on superloops.

Any telephone, terminal, console or card that fails the signaling test may be disabled by this program. To re-enable the device, see LD 32. If a device fails the signaling test and is disabled, it will be automatically re-enabled if it passes a subsequent signaling test, whether the test was manually requested or automatically initiated.

For superloops use LD 30 to test signaling and network memories.

This Overlay is not available on Option 11 systems. Use Overlay 30 (LD 30) to perform signaling tests on these systems.

Intergroup Switch (IGS) assignments

The following table shows the slot locations of the Intergroup switch (IGS) and 3 Port Extender (3PE) cards for each group.

Group 0—QCA55 Cabinet

QSD39—Network Shelf 0 (front-left):

IGS 0 is in slot 12

IGS 2 is in slot 13

3PE is in slot 14

QSD40—Network Shelf 1 (front-right):

IGS 1 is in slot 3

IGS 3 is in slot 2

3PE is in slot 1

Group 1—QCA55 Cabinet

QSD39—Network Shelf 0 (rear-left-bottom):

IGS 4 is in slot 12

IGS 6 is in slot 13

3PE is in slot 14

QSD40—Network Shelf 1 (rear-right-bottom):

IGS 5 is in slot 3

IGS 7 is in slot 2

3PE is in slot 1

Group 2—QCA55 Cabinet

QSD39—Network Shelf 0 (rear-left):

IGS 8 is in slot 12

IGS 10 is in slot 13

3PE is in slot 14

QSD40—Network Shelf 1 (rear-right):

IGS 9 is in slot 3

IGS 11 is in slot 2

3PE is in slot 1

Group 3—QCA108 Cabinet

QSD39—Network Shelf 0 (front-right):

IGS 12 is in slot 12

IGS 14 is in slot 13

3PE is in slot 14

QSD39—Network Shelf 1 (front-right):

IGS 13 is in slot 12

IGS 15 is in slot 13

3PE is in slot 14

Group 4—QCA108 Cabinet

QSD40—Network Shelf 0 (rear-left):

IGS 16 is in slot 3

IGS 18 is in slot 2

3PE is in slot 1

QSD40—Network Shelf 1 (rear-left):

IGS 17 is in slot 3

IGS 19 is in slot 2

3PE is in slot 1

Intergroup Switch (IGS) to group number associations

To find the associated IGS number, cross-reference the transmitting group number and the junctor number. For example, transmitting group 2 and junctor 5 are associated with IGS 9.

Transmitting Group:

0 1 2 3 4

IGS Number:

0 4 8 12 16

1 5 9 13 17

2 6 10 14 18

3 7 11 15 19

Junctor number:

0, 4, 8, 12, 16, 20, 24, 28

1, 5, 9, 13, 17, 21, 25, 29

2, 6, 10, 14, 18, 22, 26, 30

3, 7, 11, 15, 19, 23, 27, 31

BSD messages

BSD0000	Background Signaling and Diagnostic (LD 45) has been loaded.
BSD0001	Invalid command.
BSD0002	An attempt was made to enter a command while a previous TEST command was still being executed. The new command is ignored.
BSD0020 c	The input buffer of the Peripheral Signaling (PS) card has overflowed during execution of the TEST command. Incoming signaling messages have been lost. The signaling test was terminated. Action: Retry TEST command. No fault is implied by this message.
BSD0021 c	The program has insufficient memory to record the quantity of SL-1 line faults detected during the Peripheral Signaling (PS) card c test. The test was terminated. However, this message does not necessarily imply a PS card fault. Action: Retry TEST command. If the error message reoccurs, use the STAT command in LD 32 to obtain the status of PS cards. Use the ENLL command in LD 32 to enable any disabled cards.
BSD0022	During execution of a TEST command, the continuity test procedure encountered an "all channels busy" condition. One or more of the continuity tests were not performed. Action: Retry TEST command later. No fault is implied by this message.
BSD0023 loop	During execution of a TEST command, a message request generating/detecting patterns is not able to be sent to the NT8D04 Network card.
BSD0024 loop	During execution of a TEST command, cannot query the continuity test result of the NT8D04 Network card.
BSD0080 c: s1 s2 sn	Program has switched to CPU c. When this CPU is active, IGS card(s) s1, s2, etc., either do not respond or fail the memory test. Action: 1. Compare the BSD080 list of IGS cards with the BSD082 list of IGS cards. IGS cards which appear in both lists are likely to be faulty. Go to LD 39. Use the commands STAT IGS x and ENL IGS x to identify and enable disabled IGS cards. If the IGS card cannot be enabled, replace it. 2. If a particular IGS card either generates only a BSD080 message or generates no BSD082 message, the fault is likely to be on the CE EXT connecting CPU c to the Network Shelf. Go to LD 35. Use the commands STAT EXT and ENL EXT to identify and enable either the disabled Segmented Bus Extender card or the 3

Port Extender card. Replace any cards which remain disabled after this procedure.

BSD0081 c: l1 l2 In Program has switched to CPU c. When this CPU is active, Network loops l1, l2, etc. either do not respond or fail the memory test.

Action: 1. Compare the BSD081 list of network loops with the BSD083 list of network loops. If a network loop appears in both lists, then the card associated with that loop may be faulty. Go to LD 32. Use the commands STAT l and ENLL l to identify and enable disabled loops. Replace the Network card if loops remain disabled after this procedure.

2. If no Network card on a particular network shelf responds, the fault may be:

a. on the IGS (Intergroup Switch) card on that network shelf. Go to LD 39. Use the commands STAT IGS x and ENLL l to identify and enable disabled IGS cards. If an IGS card remains disabled, replace it.

b. in the cable which connects the IGS card to the junctor. Replace this cable and run LD 45 (BSD) to verify that the fault has been cleared.

c. on the Peripheral Signaling (PS) card for that shelf. Go to LD 32. Use the commands STAT PER x and ENPS x to identify and enable disabled PS cards. If a PS card remains disabled, replace it.

3. If Clock Controller 0 (SCG 0) is active to shelf 0, a faulty cable probably exists. Replace the faulty cable and verify that the fault has been cleared in LD 45. The faulty cable will be found between:

- a. the Clock Controller card and the junctor, or
- b. the Network card and Peripheral Buffer card, or
- c. two Peripheral Buffer cards

4. If a network loop only appears in a BSD081 message, or if no BSD083 message follows, the probable fault can be found on:

- a. the CE EXT connecting the network shelf (containing the Network card) to the active CPU c
- b. the cable connecting the CE EXT to the network shelf

Go to LD 35. Use the commands STAT EXT and ENL EXT x to identify and enable disabled extended pairs belonging to either Segmented Bus Extender cards or 3 Port Extender cards. Replace the extender card if any extender pairs remain disabled after this procedure.

BSD0082 c: s1 s2 sn The program has switched CPUs and CPU c has become the nonactive CPU. Prior to the CPU switch (i.e., when CPU c was active), the IGS cards s1, s2 etc. either did not respond or failed the memory test.

Action: 1. Compare the BSD082 list of IGS cards with the BSD080 list of IGS cards, if one exists. An IGS card appearing in both lists is likely to be faulty. Go to LD 39. Use the commands STAT IGS x and ENLL I to identify and enable disabled IGS cards. If an IGS card remains disabled, replace it and then run LD 45 to test the card.

2. If an IGS card only appears in the BSD082 list or if no BSD080 message is present, the probable fault is on:

a. the CE EXT connecting the network shelf (containing the Network card) to the active CPU c. Go to LD 35. Use the commands STAT EXT and ENL EXT x to identify and enable disabled extended pairs belonging to either Segmented Bus Extender cards or 3 Port Extender cards. Replace the extender card if any extender pairs remain disabled after this procedure.

b. the cable connecting the CE EXT to the network shelf. Replace the cable between the two extenders and use the ENL EXT x command in LD 35 to enable the extender pair. Replace the extender card if any extender pairs remain disabled after this procedure.

BSD0083 c: I1 I2 In The program has switched CPUs and CPU c is now the nonactive CPU. Prior to the CPU switch (i.e., when CPU c was active), the network loops I1, I2, etc. either did not respond or failed the memory test.

Action: 1. Compare the BSD083 list of network loops with the BSD081 list of network loops. If a network loop appears in both lists, then the card associated with that loop may be faulty. Go to LD 32. Use the commands STAT I and ENLL I to identify and enable disabled loops. Replace the Network card if loops remain disabled after this procedure.

2. If no Network card on a particular network shelf responds, the fault may be:

a. on the IGS (Intergroup Switch) card on that network shelf. Go to LD 39. Use the commands STAT IGS x and ENLL I to identify and enable disabled IGS cards. If an IGS card remains disabled, replace it.

b. in the cable which connects the IGS card to the junctor. Replace this cable and run LD 45 (BSD) to verify that the fault has been cleared.

c. on the Peripheral Signaling (PS) card for that shelf. Go to LD 32. Use the commands STAT PER x and ENPS x to identify and enable disabled PS cards. If a PS card remains disabled, replace it.

3. If Clock Controller 0 (SCG 0) is active to shelf 0, a faulty cable probably exists. Replace the faulty cable and verify that the fault has been cleared in LD 45. The faulty cable will be found between:

a. the Clock Controller card and the junctor, or

b. the Network card and Peripheral Buffer card, or

c. two Peripheral Buffer cards.

4. If a Network card appears in the BSD083 message list, or if there is no BSD081 message, the faulty is likely to be found on:

a. the CE EXT connecting the network shelf (containing the Network card) to the active CPU c. Go to LD 35. Use the commands STAT EXT and ENL EXT x to identify and enable disabled extended pairs belonging to either Segmented Bus Extender cards or 3 Port Extender cards. Replace the extender card if any extender pairs remain disabled after this procedure.

b. the cable connecting the CE EXT to the network shelf. Replace the cable between the two extenders and use the ENL EXT x command in LD 35 to enable the extender pair. Replace the extender card if any extender pairs remain disabled after this procedure.

BSD0085 Changeover and Memory Arbitrator (CMA) card failed to respond when attempt made to switch CPU. Memory test phase of program terminated. CMA card on active CPU bus is faulty.

Action: Go to LD 35. Use the commands STAT CMA and ENL CMA x to identify and enable disabled CMA cards. Replace a CMA card which remains disabled after this procedure.

BSD0086 c Program attempted to switch to other CPU when CPU c was active but the attempt failed. Memory test phase of program terminated. Faulty CMA card (either one).

Action: Go to LD 35. Use the commands STAT CMA and ENL CMA x to identify and enable disabled CMA cards. Replace a CMA card which remains disabled after this procedure.

BSD0090 The program has detected a power fault indication.

Action: Check power monitor indicators. If there is a power failure but no fault is found, the minor alarm lamp lights on the attendant console. If a power fault has been detected and the overlay area is idle, then LD 45 is run in background. To restore the regular background programs defined in LDp17, let LD 45 run twice and issue the clear major alarm command (CMAJ) from LD 30, LD 34, LD 35, LD 54 or LD 92.

BSD0101 p: I1 I2 In Two or more loops I1, I2, etc. on the same PS card p have failed the signaling test. Error code BSD201 is implied for these loops. Probable faulty PS card. If fault persists after the PS card is either enabled in LD 32 or replaced, the fault may be in:

1. The Miscellaneous Register card or IF card on active CPU.
2. The IGS cards on the same shelves as I1, I2, etc.
3. The network cards on loops I1, I2, etc.
4. The CE EXT which connects the active CPU to the affected PS card.
5. Other network, tone and digit switch (TDS) and conference cards on the same shelf.

Action: The following actions correspond numerically to the fault locations listed above:

1. Use the TCPU command in LD 35 to test idle MISC circuitry and the IF card. If necessary, replace the MISC circuitry or IF card.

CAUTION: Using the TCPU command during heavy telephone traffic periods may cause the system to reload.

2. Go to LD 39. Use the commands STAT IGS x and ENL IGS x to identify and enable disabled IGS cards. If the IGS card cannot be enabled, replace it.
3. Go to LD 32. Use the commands STAT I and ENLL I to identify and enable disabled loops. Replace the Network card if loops remain disabled.
4. Check and replace the Segmented Bus Extender card or 3 Port Extender card. See the Hardware Replacement guide for details.
5. Commands STAT I and ENL I in LD 32 can be used to identify and enable disabled network loops. Commands STAT L and ENL L in LD 32 can be used to identify and enable disabled TDS loops. Commands STAT L and ENL L in LD 38 can be used to identify and enable disabled conference loops. Should enable attempts fail, the appropriate card should be replaced.

Note: Loops may be tested separately using Test L.

BSD0103 p Fault detected on outgoing signaling on peripheral signaling card p.

Action: 1. Issue the TEST command several times. If this code reappears, the Peripheral Signaling (PS) card p is probably faulty. Try to identify and enable the faulty PS card in LD 32.

2. If fault persists after the PS card is replaced, suspect a fault in the Miscellaneous Register (MISC) card or IF card on the active CPU. Use the TCPU command in LD 35 to test idle MISC circuitry and the IF card. If necessary, replace the MISC circuitry or IF card.

CAUTION: Using the TCPU command during heavy telephone traffic periods may cause the system to reload.

3. If the fault indication appears when one CPU is active but not when the other

is active and the fault affects only one group, the probable fault is on one of the following:

a. The CE EXT connecting the affected group to the CPUs which are active when the fault indication appears. Check and replace the Segmented Bus Extender card or 3 Port Extender card, or the cable which connects the two extenders (associated with the standby CPU) and the affected network shelf.

See the Hardware Replacement guide for details.

b. The cable between the extenders or other CE EXTs. Replace the cable and then attempt to enable the extender pair in LD 35. If the faults do not clear, replace the extender card.

c. Other PS cards. Check PS card status in LD 32.

BSD0110 I1 I2 In Loops I1, I2, etc. are unable to transmit speech to any loop on the other network shelf of that group. Minor alarm lamp lit on attendant console. Suspect:

1. If there is only one terminal loop on the other shelf, the associated Network card may be faulty.
2. If only one loop (I1) appears in the list, there is a possible intermittent fault in the network for Loop I1.
3. If only one loop (I1) appears in the list, an intermittent fault may exist in either the Peripheral Buffer or the Controller connected to loop I1.
4. The Peripheral Buffer (PB) or Controller may be faulty.
5. A faulty cable between the Network card and the Peripheral Buffer
6. A faulty cable between superloop and the Controller
7. A faulty Network card on loops I1, I2, etc.
8. CE EXT between CPUs may be faulty
9. PS cards
10. Other network, CONF and TDS cards
11. IGS cards CPU cards

Action: The following actions correspond numerically to the fault locations listed above:

1. Go to LD 32. Identify and attempt to enable any disabled cards using the STAT 1 and ENLL 1 commands. Replace Network card(s) if faults do not clear.
2. Go to LD 32. Identify and attempt to enable any disabled cards using the STAT 1 and ENLL 1 commands. Replace Network card(s) if faults do not clear.

3. Replace these cards, starting with the card on the highest numbered PE shelf of the loop.
4. Go to LD 32. Identify and attempt to enable disabled PB cards with the commands STAT I s and ENL I s. You may check the status of a Controller card by inputting the command XPCT x. Alternatively, you may elect to unseat, reseat and then test a controller card.
5. Replace faulty cable.
6. Replace faulty cable between Controller backplane and Superloop.
7. Go to LD 32. Identify and attempt to enable disabled Network cards with the commands STAT I and ENL I. If loops remain disabled, replace the card.
8. You will need to do one of the following:
 - a. Check and replace the Segmented Bus Extender card or the 3 Port Extender card.
 - b. Replace any faulty cables connecting extenders associated with the standby CPU and the network shelf containing the affected IGS card.
9. Go to LD 32. Use the commands STAT PER x and ENPS x to identify and enable disabled PS cards. If the PS card remains disabled, replace it.
10. CFN card status may be checked in LD 34. TDS card status may be checked in LD 38.
11. IGS card status may be checked in LD 39. CPU card status may be checked in LD 35 by using the TCPU command. Avoid using the TCPU command during periods of heavy telephone usage as it may cause the system to reload.

BSD0111 g: l1 l2 ln Loops l1, l2, etc. of group g could not transmit to any other group. Probable fault on IGS cards in group g.

Action: Go to LD 39. Use the commands STAT IGS x and ENL IGS x to identify and enable disabled IGS cards. If the IGS card cannot be enabled, replace it.

BSD0121 g: j1 j2 Jn Junctors j1, j2, etc. could be received by only one of the two network shelves in group g. It is likely that the cable between the Junctor board and the Intergroup Switch (IGS) is faulty.

Action: Replace the cable.

BSD0130 s g j: l1 L2 Loop(s) listed could not be transmitted to group g via junctor j of IGS card s. This implies one of the following two faults:

1. The IGS card s is probably faulty.

2. It is possible that an intermittent fault exists on group g, particularly if this message appears from time to time specifying different loops from one appearance of the message to the next. The cable is probably faulty from IGS s to Junctor or IGS in the same position on group g.

Action: The following actions correspond numerically to the fault locations listed above:

1. Go to LD 39. Use the commands STAT IGS x and ENL IGS x to identify and enable disabled IGS cards. If the IGS card cannot be enabled, replace it. Run LD 45 to confirm that the fault has been cleared.
2. Replace the IGS to Junctor cable and run LD 45 (BSD) again to verify the fault is cleared.

BSD0201 loop: s1 s2 Two or more shelves (s1, s2, etc.) on the same loop fail signaling test. Error code BSD301 is implied for these shelves.

The fault may be found in the following:

1. RPE loop, if L is an RPE loop.
2. Network card for loop L
3. Loop cable to PE shelves
4. PS card associated with loop L
 - a. Faults on shelves s1, s2, etc.
 - b. The PB on shelf S of loop I may be faulty
5. One or more cards may be faulty.
6. CE EXT connecting affected loop with active CPU
7. IGS cards in same group
8. All other network, CONF and TDS cards in the same group

Action: The following actions correspond numerically to the fault locations listed above:

1. Go to LD 33. Test the RPE loop. See the RPE NTP for further information.
2. Go to LD 32. Use the commands STAT I and ENLL I to identify and enable disabled loops. Replace the Network card if loops remain disabled.
3. Replace cable. Run LD 45 to verify that the fault has been cleared.
4. Go to LD 32. Use the commands STAT PER x and ENPS x to identify and enable disabled PS cards. If the PS card remains disabled, replace it.
5. To correct these faults:

- a. Go to LD 32. Identify and attempt to enable disabled PB cards with the commands STAT I s and ENL I s. Replace PB cards that remain disabled.
- b. Go to LD 32. Identify and attempt to enable disabled PE cards with the commands STAT I s c and ENL I s c. Replace PE cards that remain disabled.
6. Go to LD 35. Identify and attempt to enable disabled extender pairs (associated with the Segmented Bus Extender card and 3 Port Extender card) with the commands STAT EXT and ENL EXT x. Replace extender cards that remain disabled.
7. Go to LD 39. Use the commands STAT IGS x and ENL IGS x to identify and enable disabled IGS cards. If the IGS card cannot be enabled, replace it. Run LD 45 to confirm that the fault has been cleared.
8. CFN card status may be checked in LD 34. TDS card status may be checked in LD 38.

BSD0202 loop: s1 s1 The continuity test from network loop to shelves (indicated by s1, s2, etc.) has failed. The minor alarm lamp lit on attendant console. If L is an RPE loop, using LD 33 may aid in fault location. Probable fault in:

1. RPE loop, if L is an RPE loop.
2. Peripheral Buffer card(s) on shelf/shelves listed P
3. interconnecting cable to PE shelves
4. Network card
5. IGS cards in the same group
6. CE EXT connecting CPU
7. PS cards
8. all other network, conference and TDS cards in same group
9. For superloops the continuity test failed from network pack L to Peripheral Controllers s1 and s2. Probable fault in:
 - a. Peripheral Controller
 - b. cables to Peripheral Controller shelf backplane and Superloop Network card.
 - c. NT8D04 Network card

Action: The following actions correspond numerically to the fault locations listed above:

1. Go to LD 33. Test the RPE loop. See the RPE NTP for further information.
2. Go to LD 32. Identify and attempt to enable disabled PB cards with the commands STAT I s and ENL I s. Replace PB cards that remain disabled.

3. Replace cable and run test in LD 45 to confirm that the fault has been cleared.
4. Go to LD 32. Use the commands STAT I and ENLL I to identify and enable disabled loops. Replace the Network card if loops remain disabled.
5. Replace the IGS card and run LD 45 (BSD) to verify the fault is cleared.
6. Go to LD 39. Use the commands STAT IGS x and ENL IGS x to identify and enable disabled IGS cards. If the IGS card cannot be enabled, replace it. Run LD 45 to confirm that the fault has been cleared.
7. Go to LD 32. Use the commands STAT PER x and ENPS x to identify and enable disabled PS cards. If the PS card remains disabled, replace it.
8. CFN card status may be checked in LD 34. TDS card status may be checked in LD 38.
9. To correct these faults:
 - a. Go to LD 32. Use the XPCT x command to test the Controller. If the Controller fails the test, replace it.
 - b. Replace the cable and run LD 45 (BSD) to verify the fault is cleared.
 - c. Go to LD 32. Use the commands STAT I and XNTT I to identify and test superloops. If a superloop fails the test, replace it.

BSD0203 loop: n Memory test of loop failed, n speech channels on this loop are now disabled. Minor alarm lamp lit on attendant console. Probable fault in:

1. Network card
2. IGS cards in the same group
3. CE EXT connecting CPU
4. PS cards
5. All other network, conference and TDS cards in same group

Action: The following actions correspond numerically to the fault locations listed above:

1. Go to LD 32. Use the commands STAT I and ENLL I to identify and enable disabled loops. Replace the Network card if loops remain disabled.
2. Go to LD 39. Use the commands STAT IGS x and ENL IGS x to identify and enable disabled IGS cards. If the IGS card cannot be enabled, replace it. Run LD 45 to confirm that the fault has been cleared.

3. Go to LD 35. Identify and attempt to enable disabled extender pairs (associated with the Segmented Bus Extender card and 3 Port Extender card) with the commands STAT EXT and ENL EXT x. Replace extender cards that remain disabled.

4. Go to LD 32. Use the commands STAT PER x and ENPS x to identify and enable disabled PS cards. If the PS card remains disabled, replace it.

5. CFN card status may be checked in LD 34. TDS card status may be checked in LD 38.

BSD0205 loop Continuity checker on loop L suggest that the network is faulty.

Action: Go to LD 32. Use the commands STAT I and ENLL I to identify and enable disabled loops. Replace the Network card if loops remain disabled.

BSD0206 loop: I1 I2 Loop unable to receive speech from I1, I2, etc. Minor alarm lamp lit on attendant console. Probable fault cause:

1. Network card for loop I

2. If you cannot receive only one loop (I1), there is a possible intermittent fault in the Network card for loop I1. This is the expected fault type if any other loops cannot receive I1 or if L1 appears in a BSD110 message.

3. If only one loop (I1) cannot be received, possible intermittent fault in one of the peripheral buffer connected to loop I1

4. All other network, conference and TDS cards in the same group.

Action: The following actions correspond numerically to the fault locations listed above:

1. Go to LD 32. Use the commands STAT I and ENLL I to identify and enable disabled loops. Replace the Network card if loops remain disabled.

2. Go to LD 32. Use the commands STAT I and ENLL I to identify and enable disabled loops. Replace the Network card if loops remain disabled

3. Replace each Peripheral Buffer in turn, starting with the one on the highest numbered PE shelf. The test should then be allowed to run long enough to indicate whether the problem will persist.

4. CFN card status may be checked in LD 34. TDS card status may be checked in LD 38.

BSD0207 loop: j1 j2 Junctor(s) j1, j2, etc. could not be received by the loop.

1. Network for loop L is probably faulty.

2. An intermittent fault is also possible, particularly if multiple BSD207 messages appear for several loops in the same group, each message specifying the same junctor(s) j1, j2, etc.; the fault in this case could be either:

- a. IGS card for group(s) associated with loop L and junctors j1, j2, etc. See introduction for Intergroup Switch shelf locations and IGS and group number associations
- b. IGS card for originating group(s), on the same position as the card indicated in (1).

Action: The following actions correspond numerically to the fault locations listed above:

1. Go to LD 32. Use the commands STAT I and ENLL I to identify and enable disabled loops. Replace the Network card if loops remain disabled.
2. a. Go to LD 39. Use the commands STAT IGS x and ENL IGS x to identify and enable disabled IGS cards. If the IGS card cannot be enabled, replace it. Run LD 45 to confirm that the fault has been cleared.
- b. Follow the action prescribed in 2a

BSD0208 loop: ts The software network map indicates that timeslot s of loop L is idle but network memory word for that slot is not idle. The indicated slot is marked busy in the software map and the current continuity test of loop L is abandoned.

A possible software fault may exist which is similar to the type referred to in BUG365. If several BSD208 or BUG365 messages appear which involve loop L or if a BSD203 message appears involving loop L, the network for loop L is probably faulty. See BSD203 comments.

Action: Go to LD 32. Use the commands STAT I and ENLL I to identify and enable disabled loops. Replace the Network card if loops remain disabled. Contact technical support staff if replacing loop I does not clear the fault.

BSD0209 loop Network connection memory test of loop L detected an address decode fault and the minor alarm lamp is lit on attendant console. BSD209 messages will often appear in pairs. However, it is normally the case that only one fault is present.

Action: Disable either loop by using program 32. If the LED lights on Network card for that loop and not on any other Network card, probable fault is on:

1. the Network card
2. CE EXT connecting active CPU to shelf housing that Network card or the interconnecting cable.

If disabling the loop results in an LED being lit on some other network, probable fault is on network on which the LED unexpectedly lit or on cards listed in (b) above.

BSD0301 I s: c1 c2 c Two or more PE cards (s1, c2 etc.) on same Loop I and shelf s have failed the signaling test. Error code BSD401 is implied for the cards listed.

If a card number is preceded by a minus sign, one or more units on that card were disabled. The probable fault can be found on one of the following:

1. Peripheral Buffer on shelf S of loop L
2. One or more of cards (C1, C2, etc.).
3. Loop cable to PE shelf.
4. Network card for loop L.

Action: The following actions correspond numerically to the fault locations listed above:

1. Go to LD 32. Identify and attempt to enable disabled PB cards with the commands STAT I s and ENLL I s. Replace PB cards that remain disabled.
2. Go to LD 32. Identify and attempt to enable disabled PE cards with the commands STAT I s c and ENLL I s c. Replace PE cards that remain disabled.
3. Replace cable and run LD 45 test to confirm that fault has been cleared
4. Go to LD 32. Use the commands STAT I and ENLL I to identify and enable disabled loops. Replace the Network card if loops remain disabled.

BSD0401 I s c: u1 u2 Line/trunk/Digitone receiver card loop I shelf s failed the signaling test. If the card number c is preceded by a minus sign, the card was disabled. Probable fault on:

1. Line card
2. Trunk Card
3. Digitone Receiver card
4. Peripheral Buffer on loop L shelf s.
5. If the error message includes unit numbers (e.g.,: BSD401 L S C:u1 u2, etc.), then two or more SL-1 or Digital line units (u1, u2, etc.) on card I s c failed the signaling test. Error code BSD501 is implied for the telephones listed. The probable fault is on:
 - a. a SL-1, a DLC line card I s c, or an ISDLC line card I s c
 - b. the Peripheral Buffer on shelf I s

c. all SL-1 or Digital telephones associated with the units (u1, u2, etc.)

Action: The following actions correspond numerically to the fault locations listed above:

1. Go to LD 32. Identify and attempt to enable the disabled PE or IPE card with the commands STAT I s c and ENLL I s c. Replace PE or IPE cards that remain disabled
2. Go to LD 36. Use LDIC I s c u to list days since last call. Identify and attempt to enable the disabled trunk card or unit with the commands STAT I s c and ENLL I s c. Replace trunk cards that remain disabled.
3. Go to LD 32. Identify and attempt to enable disabled DTR cards or units with the commands STAT and ENLL I s c (u). Use the command DTR I s c (u) to test the DTR card or unit. Replace DTR cards that remain disabled.
4. Go to LD 32. Identify and attempt to enable disabled PB cards with the commands STAT I s and ENLL I s. Replace PB cards that remain disabled.
5. a. Follow the action prescribed in Action # 1.
- b. Follow the action prescribed in Action # 4.
- c. Go to LD 32. Use the DISU I s c u command to disable the PE or IPE unit. Disconnect the suspended faulty telephone and reconnect a operative telephone in its place. Use the ENLU I s c (u) command to enable the unit. If the replacement telephone still does not work, check wiring between the PE/IPE shelf backplane and the telephone. Run TEST in LD 45 to confirm that the fault has cleared.

Note: If a unit number is preceded by a minus sign, the unit was disabled.

BSD0402 loop s c: u1 u2 un Two or more SL-1 or Digital line circuits (u1, u2, etc.) on card I s c failed the signaling test. The signal concentrator on the SL-1 line card also failed. Error code BSD501 is implied for the telephones listed. Probable fault on:

1. a SL-1, a DLC line card I s c, or an ISDLC line card I s c.
2. The Peripheral Buffer on shelf I s I.

Action: The following actions correspond numerically to the fault locations listed above:

1. Go to LD 32. Identify and attempt to enable the disabled PE or IPE card with the commands STAT I s c and ENLL I s c. Replace PE or IPE cards that remain disabled.
2. Go to LD 32. Identify and attempt to enable disabled PB cards with the commands STAT I s and ENLL I s. Replace PB cards that remain disabled.

Note: If a unit number is preceded by a minus sign, the unit was disabled.

BSD0501 I s c u SL-1 or Digital telephone associated with TN I s c u failed the signaling test. If the unit number (u) is preceded by a minus sign, the telephone was disabled. SL-1 or Digital telephone fault or possible line circuit fault on the SL-1 or ISDL line card indicated.

Action: Go to LD 32. Use the STAT command to check the status of both the PE/IPE cards and units. If STAT reveals that there is a faulty telephone, disconnect it and replace it with an operative telephone. If the new phone fails to work, check the wiring between the PE/IPE shelf backplane and the telephone.

If STAT reveals that a faulty PE or IPE card exists, attempt to enable it using the ENLL command. If the card remains inoperative, replace it.

BSD0600 L1 L2 L n g Loops L1, L2, etc. on group G could not transmit to any other group. Intergroup Switch fault.

Action: Go to LD 39. Use the commands STAT IGS x and ENL IGS x to identify and enable disabled IGS cards. If the IGS card cannot be enabled, replace it. Run LD 45 to confirm that the fault has been cleared.

BSD0601 j1 j2 g No loop tested on groups could receive from junctor J1, J2 or faults:

1. IGS
2. 3PE
3. SCG

Action: The following actions correspond numerically to the fault locations listed above:

1. Go to LD 39. Use the commands STAT IGS x and ENL IGS x to identify and enable disabled IGS cards. If the IGS card cannot be enabled, replace it. Run LD 45 to confirm that the fault has been cleared.
2. Identify and attempt to enable disabled extender pairs (associated with the Segmented Bus Extender card and 3 Port Extender card) with the commands STAT EXT and ENL EXT x. Replace extender cards that remain disabled.
3. Get status of SCG0 (if clock controller, go to Input/Output guide, LD 60). Replace the disabled SCG card and run LD 45 (BSD) again to verify fault cleared.

BSD0602 loop Digital Trunk Interface (DTI) or Digital Link Interface (DLI) loop failed on the signaling test.

BSD0603 loop A previously faulty Digital Trunk Interface or Digital Link Interface loop passed the signaling test.

BSD0604 Manual continuity test number does not match data entered.

BSD0606	It is not applicable to XNPD card.
BSD0659	Cannot perform test on non-BRSC card. Loopback address must be a BRSC card TN plus a dummy unit number. Action: Enter a BRSC card TN plus a dummy unit number.
BSD0660	Cannot perform test on the ISDN line card or DSL. The BRSC BRI application that performs Layer 2 signaling processing for the line card or DSL must be in ENABLED state. Action: Check the BRSC state and enable it if necessary.
BSD0661	Cannot perform test on the BRSC. Action: The BRSC BASE application must be in ENABLED state and the BRI application must be in MANUALLY DISABLED state. If the BRI application is enabled, disable only the application in LD 32 with the DISC BRI command. If the BASE application is disabled, enable only the BASE application in LD 32 with the ENLC BASE command.
BSD0662	Input TN is already in another test. Enter another TN.
BSD0663	Input DSL TN is undefined. Enter another DSL TN.
BSD0664	Do not test a phantom loop, since it does not physically exist.
BSD0665	Fiber link status has been changed.
BSD0800	Command executing.
BSD0801	No Call Register available.
BSD0802	No superloop Network card.
BSD0803	No Controller card.
BSD0804	Requested time slot is busy.
BSD0805	No time slots free on superloop. If test is run on E-1 or T-1, the timeslot may not be available because of the specific timeslot to a carrier allocation.
BSD0806	Loop back channel not available.
BSD0807	Time-out waiting for network response.
BSD0808	Requested TN is busy.

BSD0809	Requested TN is maintenance busy.
BSD0810	Controller does not belong to Controller.
BSD0811	No terminal at that TN.
BSD0812	Digital terminal at that TN.
BSD0813	Slot on requested junctor is busy.
BSD0814	No junctors available for generate slot.
BSD0815	Wait for prompt.
BSD0816	Tags not available. Action: Stop a test by executing XSTP command and try again.
BSD0817	Generate message could not be sent. The system is temporarily out of message registers. Action: Wait and try again.
BSD0818	Detect message could not be sent. The system is temporarily out of message registers. Action: Wait and try again.
BSD0819	XMI message could not be sent. The system is temporarily out of message registers. Action: Wait and try again.
BSD0820	Last one-shot test still running. Action: Wait until the test is completed or stop the test by executing XSTP 0 command and try again.
BSD0821	Tag number has not been assigned to a test.
BSD0822	Database error: pointer nil.
BSD0823	One-shot status not printed. Action: Use XSTA command to get the test status.
BSD0824	Loop is disabled.

BSD0825	Controller card is disabled. Action: Enable the card before performing the test.
BSD0826	The DSL is disabled. Action: Enable it before performing the test.
BSD0827	Message could not be sent to the MISP application. Action: Check the MISP and the application status.
BSD0828	Message could not be sent to the MISP because the MISP express output buffer is not available.
BSD0829	Cannot do loopback on a non-BRI line card.
BSD0830	The loop back test can only be performed between an MISP card and one of the BRI line cards assigned to it.
BSD0831	MISP does not respond; use XSTP command to terminate test. The Network card may have no recollection of the command, or the card was not able to communicate with the Meridian 1.
BSD0832	Suspended tags refer to test cases where the Network card did not acknowledge the reception of the test message. Action: Use the command XSTP to free the test case.
BSD0833	Not able to send message to the MISP. Action: Check the MISP status.
BSD0834	Line cards not defined at the specified DSL.
BSD0835	All DSLs must be in disabled state.
BSD0836	The network loop is not an MISP card.
BSD0837	Test case number does not match its test data.
BSD0838	Command not applicable to Network/DTR card.
BSD0839	DSInvalid L TN used or already in test.
BSD0840	MPH application is not defined in this MISP loop.
BSD0841	LBTY entered does not match with GEN TYPE.

BSD0843	NWIF is not defined.
BSD0844	State of IF for MPH application is not in MDIS EQUIP.
BSD0845	Invalid MCU TN.
BSD0899	Invalid input. Action: Re-enter command.
BSD0900	Command executing.
BSD0901	No Call Register available. Action: Wait and try the command again. If the problem persists, increase the number of call registers in LD 17.
BSD0902	No Network card (NT8D04). Action: Enter the correct shelf number.
BSD0903	No Controller (NT8D01). Action: Be sure you entered the correct shelf number.
BSD0904	Requested timeslot is busy.
BSD0905	All time slots on that superloop are busy.
BSD0906	Loopback channel is not available.
BSD0907	XMI message was lost. Action: Try the test again. If the problem persists, check the status of the Network card.
BSD0908	Requested TN is busy.
BSD0909	Requested TN is disabled or maintenance busy.
BSD0910	Controller (NT8D01) does not belong to that Network card. Action: Try the other shelf.
BSD0911	No terminal at that TN.
BSD0912	Digital terminal at that TN.
BSD0913	Slot on requested junctor is busy.

BSD0914	No junctors available for generator slot.
BSD0915	Wait for prompt.
BSD0916	No free tags. Action: Stop one of the other running or completed tests by using XSTP command and start again.
BSD0917	Could not send Generate message. The system is temporarily out of message registers. Action: Try the command again.
BSD0918	Could not send Detect message. The system is temporarily out of message registers. Action: Try the command again.
BSD0919	Could not send XMI message. The system is temporarily out of message registers. Action: Try the command again.
BSD0920	Last one-shot test is still running. Action: Wait for the test to complete or stop it using XSTP 0.
BSD0921	Tag number is idle. Action: Use the XNIF command to get a list of completed and running tests.
BSD0922	Database error: pointer is nil.
BSD0923	One-shot test status not printed. Action: Get the test status by using the XSTA 0 command.
BSD0924	Network card (NT8D04) is disabled.
BSD0925	Controller card (NT8D01) is disabled.
BSD0926	TN is disabled.